

CLAIMS:

What is claimed is:

1. A method for applying tubular bands from a supply of flat tubular material to a series of containers, comprising the steps of:

- a. advancing a first length of flat tubular material from the supply;
- b. cross folding the first length of flat tubular material;
- c. inserting the flat tubular material into a former for opening the tubular material;
- d. separating the first length of tubular material from the supply of flat tubular material to form a cut sleeve;
- e. allowing the cut sleeve to open into a two dimensional cross sectional shape;
- f. positioning a container in axial alignment with the cut sleeve; and
- g. advancing a second length of flat tubular material into the former to discharge the cut sleeve onto the container.

2. The method of claim 1, wherein the step of cross folding comprises drawing the tubular material over a spreader disposed therewithin, the spreader having a pair of plates residing in a path of the tubular material and substantially perpendicular to one another.

3. The method of claim 1, further comprising controlling the length of flat tubular material advanced from the supply in response to detecting a length indicator.

4. The method of claim 1, further comprising controlling the length of flat tubular material advanced from the supply in response to an encoder signal.

5. The method of claim 1, further comprising the step of retaining the sleeve in the former by extending a gate adjacent to a discharge end of the former.

6. The method of claim 5, further comprising the step of retracting the gate as a container is positioned to receive the sleeve.

7. The method of claim 1, wherein the step of opening the cut sleeve comprises directing a fluid flow at an exterior side portion of the cut sleeve within the former.

8. The method of claim 1, further comprising the step of preventing the cut sleeve from fully opening.

9. An apparatus for applying tubular bands from a supply of flat tubular material to each one in a series of containers, comprising:

- a. a supply of tubular material in flat condition;
- b. means for cross folding the tubular material positioned downstream of the supply;
- c. means for advancing a selected length of the tubular material positioned downstream of the means for cross folding;
- d. a cutter positioned downstream of the means for advancing;
- e. a former positioned downstream of the cutter for receiving the flat tubular material;
- f. a gate mounted adjacent an exit portion of the former; and
- g. means for sequentially positioning each one of a series of containers in axial alignment with and downstream of the former so that a cut length of opened tubular material is expelled from the former to circumferentially engage each one of the series of containers.

10. The apparatus described in claim 9, further comprising means for extending and retracting the gate adjacent to the exit portion of the former such that the gate, when in the extended position, retains the cut length in the former.

11. The apparatus described in claim 10, wherein the gate is substantially planar and extending and retracting is linear.

12. The apparatus described in claim 9, wherein the means for advancing comprises a driven first pair of rollers.

13. The apparatus described in claim 9, wherein the means for cross folding comprises a tubular material spreader disposed within the tubular material.

14. The apparatus described in claim 13, wherein the spreader is supported within the tubular material on a second pair of rollers.

15. The apparatus described in claim 9, wherein the former comprises a hollow cylindrical portion that is substantially circular in cross section.

16. The apparatus described in claim 9, wherein the former comprises a hollow cylindrical portion that is substantially square in cross section.

17. The apparatus described in claim 15, further comprising a pair of opposed channels in side portions of the former extending from an entry to an exit of the former.

18. The apparatus described in claim 15, further comprising means for directing a fluid flow at a selected portion of the cut length of flat tubular material to urge the cut length to open radially.

19. The apparatus described in claim 15, further comprising an exit channel in the former configured to allow a cut length of tubular material to move horizontally with a conveyed container as the cut length moves downwardly onto the container.

20. The apparatus described in claim 19, wherein the exit channel is formed substantially perpendicular to an axis of the hollow cylindrical portion of the former along a line substantially parallel to a path of the container conveyor.

21. A former for radially opening a cut length of flat tubular material to be mounted onto a container, comprising:

- a. an open cylindrical portion extending from an entry to an exit;
- b. a pair of opposed channels in the former from the entry to the exit;
- c. a pair of opposed guide grooves in the former from the entry to the exit and residing between the pair of channels; and
- d. a constrictor plate to selectively reduce the open cylindrical portion and to prevent a cut length of tubular material from fully opening therewithin.

22. The former as described in claim 21, further comprising an exit channel in the former configured so as to allow a cut length of tubular material to move horizontally outwardly with a conveyed container as the cut length moves downwardly onto the container.

23. The apparatus described in claim 21, wherein the exit channel is formed substantially perpendicular to an axis of the open cylindrical portion of the former along a line substantially parallel to a path of the conveyed container.

24. The apparatus described in claim 21, further comprising means for directing a fluid flow at a selected portion of the cut length of flat tubular material to urge the cut length to open radially.

25. The apparatus described in claim 21, further comprising moveable means mounted adjacent to the exit of the former cylindrical portion for temporarily retaining the cut length of tubular material within the former.

26. The apparatus described in claim 25, wherein the means for temporarily retaining the cut length of tubular material comprises a substantially planar gate that is able to be extended to retain the cut length and retracted to allow the cut length to pass out of the former.